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REMARKS

Claims 18-25 are in the case, with claims 1-17 canceled. Claims 18-20 are rejected under 35 USC § 102 over USPN 6,528,409 to Lopatin et al. The specification is objected to. Claim 18 has been amended and new claims 21-25 are hereby added. No new matter has been introduced by the amendments, which are supported by the disclosure of the original claims, the specification, and the figures, such as figures 2-4. Reconsideration and allowance of the claims are respectfully requested.

SPECIFICATION OBJECTIONS

The specification is objected to because of informalities. The specification is hereby amended as given above to overcome the informalities. Reconsideration is respectfully requested.

CLAIM REJECTIONS UNDER §102

Claims 18-20 stand rejected over Lopatin et al. Applicants respectfully submit that Lopatin et al. fail to teach the inventions of claims 18-20.

Claim 18, as amended, is directed to an improvement to an integrated circuit that includes a metal interconnect. The improvement includes a copper layer formed between dielectric structures, where the dielectric structures have an upper surface that is substantially uniform across all of the dielectric structures. The copper layer is planarized such that it is below the upper surface of the dielectric structures and has no dishing between the dielectric structures. The improvement also includes an electrically conductive capping layer over all of the copper layer, with none of the capping layer over any of the dielectric structures.

As shown in figure 9 of Lopatin et al., the upper surface of the copper (230) of the structure described by Lopatin et al. is planarized, such as using chemical mechanical polishing, to the same level as the upper surface of the dielectric (224). As noted in the office action, the upper surface of this planarized copper layer is coplanar with the exposed upper surface of the dielectric layer (224). Thus, the upper surface of the copper

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layer described by Lopatin et al. is not below the upper surface of the dielectric structures as required by amended claim 18.

Therefore, claim 18 patentably defines over Lopatin et al. Reconsideration and allowance of claim 18 are respectfully requested. Claims 19-25 are dependent on claim 18 and describe additional important aspects of the invention. Applicants submit that claims 19-25 patentably define over Lopatin et al. for at least the same reasons as claim 18. Reconsideration and allowance of claims 19-25 is requested.


CONCLUSION

Applicants assert that the claims of the present application patentably define over the prior art made of record and not relied upon for the same reasons as given above. Applicants respectfully submit that a full and complete response to the office action is provided herein, and that the application is now fully in condition for allowance. Action in accordance therewith is respectfully requested.

In the event this response is not timely filed, applicants hereby petition for the appropriate extension of time and request that the fee for the extension be charged to deposit account 12-2355. If other fees are required by this amendment, such as fees for additional claims, such fees may be charged to deposit account 12-2252. Should the examiner require further clarification of the invention, it is requested that s/he contact the undersigned before issuing the next office action.

Sincerely,

LUEDEKA, NEELY & GRAHAM, P.C.

By: 

Rick Barnes, 39,596

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